Patent Claims

1. A cooling module for the engine (1) of a motor vehicle, having a heat exchanger (4), at least one fan (16) and a coolant pump (8), characterized in that part of the cooling module (2) is a module frame (3) within which and/or on which the coolant pump (8) is arranged.

2. The cooling module as claimed in claim 1, characterized in that the module frame (3) is a supporting component of the cooling module (2).

3. The cooling module as claimed in claim 1 or 2, characterized in that the cooling module (2) has a valve (9).

4. The cooling module as claimed in claim 3, characterized in that the valve (9) is connected to the coolant pump (8) as a constructional unit.

5. The cooling module as claimed in one of the preceding claims, characterized in that the cooling module (2) has a sensor (11) for regulating the coolant temperature, which sensor is integrated into the cooling module (2).

6. The cooling module as claimed in one of the preceding claims, characterized in that the cooling module (2) is a control module (12).

7. The cooling module as claimed in claim 6, characterized in that the control module (12) is connected to an external control module (14) via an interface.

8. The cooling module as claimed in one of the preceding claims, characterized in that the connection of the coolant pump (8) is arranged approximately in

the center of one side of the module frame (3).

9. The cooling module as claimed in one of the preceding claims, characterized in that the coolant pump (8) and/or the valve (9) is/are aligned parallel to the region of the module frame (3), in which the coolant pump (8) and/or the valve (9) is/are fixed.

10. The cooling module as claimed in one of the preceding claims, characterized in that a connection (10') is provided for that part of the coolant circuit through which the flow passes parallel to the heat exchanger, which connection is aligned in the axial direction of the coolant pump (8).

11. The cooling module as claimed in one of the preceding claims, characterized in that a flexible connecting means is arranged between the outlet of the heat exchanger (4) and the inlet of the coolant pump (8).

12. The cooling module as claimed in one of the preceding claims, characterized in that the coolant pump (8) is arranged on the module frame (3) in such a manner that cooling air can flow around the electronics of the coolant pump (8).

13. The cooling module as claimed in one of the preceding claims, characterized in that the module frame (3) and a cooling-fan housing (17) form a constructional unit.

14. The cooling module as claimed in one of the preceding claims, characterized in that a bypass (18) is formed in an integrated manner.